



RESEARCH ARTICLE

Wisdom of Natural Food on the Season of Na Dun Community, Maha Sarakham of Thailand

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ABSTRACT

The objective of this research is to study wisdom of natural food on the season of Na Dun Community, Na Dun district, Maha Sarakham province. The sample group used in the study was the people of Na Dun sub-district, numbering 45 people, obtained from voluntary choice. The tools used in the research are interview structured form about wisdom of natural food on the season of Na Dun Community, Na Dun district, Maha Sarakham province, The study results it was found that: 1) Sources of natural seasonal raw materials in Na Dun community, Na Dun district, Maha Sarakham province, It was found that there are 2 sources of raw materials: from forest resources, totaling 21 types, from rice fields, totaling 37 types, totaling 58 types. 2) Wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham province. It was found that there are 24 plant-based menus in total, 28 insect-based menus in total, 53 animal-based menus in total, and 18 fungus-based menus in total, for a total of 123 menus. 3) The study of cooking wisdom and methods of making food from Dhamma according to the seasons, there are 17 types of Na Dun community, including: curry food, steamed food, ground food, bland food, roasted food, soup food, boiled food, grilled food, grilled food, Koi food, Stir-fried food, fried food, boiled food, Larb food, fermented food, pounded food, Yam food and steamed food. 4) Preservation and preservation of seasonal natural food in the Na Dun community, it was found that there are 3 methods of preservation and preservation of food as follows: Fermentation method. There are 11 types of materials obtained from fermentation. Drying methods there are 13 types of objects obtained by drying. Steaming method: There are 2 types of objects obtained by steaming, for a total of 26 types.

INTRODUCTION

Local wisdom is knowledge that comes from people's life experiences through the process of study, observation, and analysis until wisdom emerges and crystallizes into a body of knowledge that is

assembled together derived from knowledge of many subjects. (Songkhram Wongyai. 2003). It is the wisdom and knowledge of the villagers, which they learned from their grandparents, relatives, and the ingenuity of each person or knowledgeable people in various local villages and has a relationship with nature, which local wisdom or folk wisdom has two sources. It is the wisdom that comes from living naturally and wisdom that comes from experience. (Thai Junior Encyclopedia for Youth by His Majesty King Bhumibol Adulyadej. 2008). Food is the main factor of life. Because food provides energy to the body. Food provides growth and repairs damaged tissue. Food can control various changes within the body and food helps the various organs to function and live normally. Therefore, when consuming food, nutrition principles and regular practices must be considered in order to achieve good nutritional status. The food must be fresh and not spoiled and most importantly, you must eat food from all five food groups. Which the country's past development resulting in continuous economic expansion. There are more people in urban areas and working in the industrial sector causing the people's way of life to change. All of which are mostly caused by people's food consumption habits. These various situations have caused people around the world to become aware of the conservation of natural resources. Protect the environment and return to living in harmony with nature.

Natural resources are very valuable and important to human life. It is a source of production for 4 factors: food, medicine, and clothing and housing and beneficial to mankind. (Somsak Sukwong. 2007) However, food obtained from natural resources is food that is local and seasonal. It is believed that it has a beneficial effect on health and helps treat various diseases. Eating foods that are available according to the season will allow the body to adjust to balance with the changing environment. It brings the knowledge and experiences of people in the food community to apply in preparing food for daily consumption as well as cultural traditions of eating Choosing and preserving food to get nutritious food. (Wahjara Wannaampai. 2009). At present Na Dun district's natural resources are rich in nature. There are various food sources that occur naturally. It is important to human life. which is part of the four factors that are very necessary including playing an important role in supporting the local way of life and driving growth. As a result, there are natural food sources from a variety of plants, animals, insects, and mushrooms. That occurs during the dry season, rainy season, and winter, which are natural ingredients that can be used to prepare food for daily consumption thus creating the wisdom of food from nature in creating a variety of natural food menus and having wisdom in preserving food from nature to extend the shelf life of food to preserve its quality and nutritional value not easily damaged. It is the use of knowledge and experiences of people in the community to prepare food for daily consumption and is wisdom that has been passed down from generation to generation.

The research team is interested in studying the community seasonal natural food wisdom Na Dun, Maha Sarakham province to collect information about natural food wisdom. It consists of cooking, cooking methods, storage, and natural food preservation and the source of raw materials used in cooking in the Na Dun community Maha Sarakham province.

METHOD

Population and Sample

The Population and sample include the people of Na Dun sub-district derived from voluntary selection, 45 people selected 5 representatives from each sub-district, totaling 9 sub-districts, namely Hua Dong sub-district, Nong Khu sub-district, Dong Yang sub-district, Dong Duan sub-district, Na Dun sub-district, Ku Santarat sub-district, Dong Bang sub-district, Nong Phai sub-district, and Phratad sub-district.

The Research Tools and Quality of Tools

- 1) Studying secondary data is the study of data from documents, books, textbooks, journals and research related to wisdom of natural food on the season of Na Dun community.
- 2) Create an interview including: Interview structured form about wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham of Thailand, including: part 1 General information of the respondent, part 2: Participatory model between the relationship between seasons and local food wisdom, during the season what natural foods does the community have. What are the natural foods found to be cooked and how do they cook. What are the natural food preservation and storage methods? What are the sources of raw materials, part 3: Exploring the wisdom of natural seasonal food in the Nadu community, including seasonal ingredients, types of ingredients, cooking methods, and natural food preservation.
- 3) Take the created interview form proposed to experts to check accuracy and suitability.
- 4) Take the interview form and revise it according to the experts' recommendations, to collect data with the sample.

Data Collection

- 1) Studying secondary data is the study of data from documents, books, textbooks, journals and research related to wisdom of natural food on the season of Na Dun community.
- 2) Planning the data collection and hold a planning meeting with the research assistant about the steps and the process of collecting data on wisdom of natural food on the season of Na Dun community.
- 3) Survey and study of the area, population and sample groups of Na Dun community, Maha Sarakham province.
- 4) Contact and coordinate with community leaders to inquire with citizens about wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham of Thailand.
- 5) Create an interview including: Interview structured form about wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham of Thailand, including: part 1 General information of the respondent, part 2: Participatory model between the relationship between seasons and local food wisdom, during the season what natural foods does the community have? What are the natural foods found to be cooked and how do they cook? What are the natural food preservation and storage methods? What are the sources of raw materials, part 3: Exploring the wisdom of natural seasonal food in the Nadu community, including seasonal ingredients, types of ingredients, cooking methods, and natural food preservation. (Shown in Figure 1.)
- 6) Field visit to collect in-depth information about wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham of Thailand by interviewing knowledgeable people in the community in Na Dun district, Maha Sarakham province number of 45 people selected 5 representatives. From each sub-district, totaling 9 sub-districts, namely Hua Dong sub-district 5 people, Nong Khu sub-district, 5 people, Dong Yang sub-district 5 people, Dong Duan sub-district 5 people, Na Dun sub-district 5 people, Ku Santarat sub-district 5 people, Dong Bang sub-district 5 people, Nong Phai sub-district 5 people, and Phratad sub-district 5 people. Also, record data, record audio, and take photos to accompany the operation.
- 7) Analysis of data on wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham of Thailand obtained from field data collection.
- 8) Summarize the results and prepare a complete report.

Data Analysis

Data on the Wisdom of Natural Food on the season of Na Dun Community, Maha Sarakham of Thailand. Analyze qualitative data descriptively. The researcher took data obtained from studying research documents and data obtained from fieldwork and classified them into issues according to the research questions. Then, the researcher checked the completeness and accuracy of the data to ensure that they were complete and ready for analysis and conclusion. To obtain accurate, reliable data and prevent errors, the researcher checked the consistency of the data, which is triangulation

RESULTS

1. The study results wisdom of the source of natural ingredients according to the seasons of the Na Dun community.

The Na Dun community is a community with plenty. Because the Na Dun community has forest resource areas, and the location in the rice fields gives the Na Dun community a variety of natural food production sources. Which is the main ingredient in cooking, resulting in natural food wisdom according to the seasons of the Na Dun community. The important sources of natural raw materials are as follows:

1.1) The main raw materials are obtained from forest resources. Currently, the found that Na Dun community has a large forest area together with public forest and community forest that has a variety of nature at Na Dun community. It is used as a source of food that can use raw materials to cook food using the traditional wisdom of the Na Dun community in using natural ingredients to cook food for consumption. It was found that Na Dun community has 21 types of raw materials from forest resources, including: *Cratoxylum formosum* (Jack.) Dyer subsp. *pruniflorum* Gogel., *Crateva adansonii* DC. subsp. *trifoliata* (Roxb.) Jacobs., *Oecophylla smaragdina*, *Tessaratomya papillosa*, *Carebara* sp. 1 of AMK, *Cissampelos pareira* L. var. *hirsuta* (Buch. ex DC.) Forman., *Curcuma sessilis* Gage., *Bambusa* spp., *Sauropus androgynus* (L.) Merr., *Lentinus squarrosulus* Mont., *Termitomyces* sp., *Lasia spinosa* (L.) Thwaites., *Cassia siamea* Lamk., *Holotricheas*., *Heliocopris bucephalus* Fabricius., *Calamus* sp., *Azadirachta indica*, *Brachytrupes portentosus*, *Hottentotta tamulus*. *Heterometrus laoticus*, *Dioscorea hispida* Dennst.



Figure 1: Examples of the main raw materials are obtained from forest resources: A. *Cratoxylum formosum* (Jack.) Dyer subsp. *pruniflorum* Gogel; B. *Crateva adansonii* DC. subsp. *trifoliata* (Roxb.) Jacobs.; C. *Cissampelos pareira* L. var. *hirsuta* (Buch. ex DC.) Forman.; D. *Dioscorea hispida* Dennst.; E. *Termitomyces* sp.; F. *Heliocopris bucephalus* Fabricius.; G. *Brachytrupes portentosus*; H. *Oecophylla smaragdina*

1.2) The main raw materials obtained from the rice fields. Na Dun community has rice fields that are naturally fertile because in the rice fields there are many natural plants and vegetables. The rice fields are a source of learning, a source of income, and importantly, it is a source of raw materials for cooking from 37 types of fields, including: *Glinus oppositifolius* (L.) Aug.DC., *Marsilea crenata* C.

Presl., *Limnophila aromatica* (Lam.) Merr., *Ipomoea aquatica* Forsk., *Cleome gynandra* L., *Gastropila fumosa* (Zeller) P.Ponce de León., *Calvatia boninensis* S. Ito & Imai., *Gryllotalpa orientalis*, *Fejervarya limnocharis*, *Occidozyga lima*, *Microhyla pulchra*, *Rasbora paviana*, *Filopaludina martensi*, *Pomacea canaliculate*, *Pila polita* Deshayes., *Channa striata*, *Termes* sp., *Lychas maculatus*, *Glyphoglossus molossus*, *Anura*, *Anabas testudineus*, *Cyrthacantacris tatarica*, *Limnocharis flava* (L.) Buchenau), *Amaranthus viridis* L., *Esantheplhusa* spp., *Lethocerus indicus* Lep.-Serv., *Cybister limbatus*, *Wolffia globosa*, *Nymphaea lotus*, *Rhyothemis* sp., *Filopaludina sumatrensis* Dunker., *Trichopodus cantoris*, *Monopterus albus*, *Macrognathus siamensis*, *Clarias macrocephalus*, *Macrobrachium lanchesteri*, *Neptunia oleracea* Lour. It can be seen that forests are important in terms of food and are an important source of raw materials for people in the community to find food from nature. (Shown in Figure 2.)



Figure 2: Examples of the main raw materials obtained from the rice fields in Na Dun community: A. *Glinus oppositifolius* (L.) Aug.DC; B. *Ipomoea aquatica* Forsk.; C. *Limnocharis flava* (L.) Buchenau); D. *Wolffia globosa*.; E. *Lethocerus indicus* Lep.-Serv.; F. *Rhyothemis* sp.; G. *Pomacea canaliculate*.; H. *Monopterus albus*.

2) The study results wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham province.

it was found that there are 24 plant-based menus in total, 28 insect-based menus in total, 53 animal-based menus in total, and 18 fungus-based menus in total, for a total of 123 menus. (Shown in Figure 3.)



Figure 3: Examples of natural food on the season on the season of Na Dun community: A. plant-based menus; B. animal-based menus; C. insect-based menus; D. fungus-based menus

3) The study results natural cooking wisdom and cooking methods from the seasons at Na Dun community, Na Dun district, Maha Sarakham province.

it was found that Na Dun community most of the food is naturally derived and easy to cook. It is a change in the ingredients used in cooking. Adding natural local ingredients as food ingredients and modifying seasonings to increase the variety and taste of food, as well as increasing the nutritional value of natural foods, leading to food security. According the study natural cooking wisdom and cooking methods from the seasons at Na Dun community, Na Dun district, Maha Sarakham province It was found that Na Dun community likes to cook natural food according to the season. There are 17 types including: Curry food, Steamed food, ground food, bland food, Roasted food, Soup Isan food,

Boiled food, Grilled food, Koi Isan food, Stir-fried food, Fried food, Boiled food, Larb Isan food, Fermented food, pounded food, Yam Isan food, Steamed food. (Shown in Figure 4.)

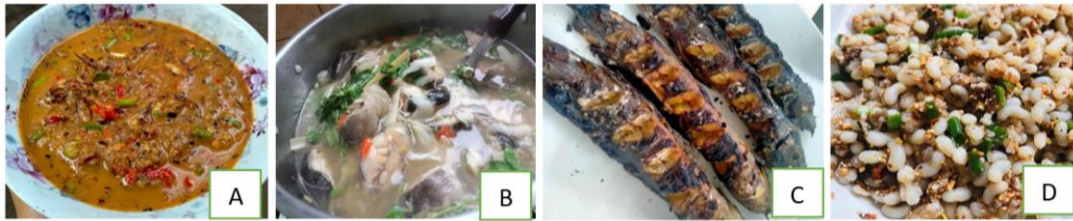


Figure 4: Examples of natural cooking and cooking methods from the seasons at Na Dun community, Na Dun district, Maha Sarakham province: A. ground food.; B. Boiled food; C. Grilled food.; D. Koi Isan food

4) Preservation and preservation of seasonal natural food in the Na Dun community.

it was found that there are 3 methods of preservation and preservation of food as follows: Fermentation method. There are 11 types of materials obtained from fermentation. Drying methods There are 13 types of objects obtained by drying. Steaming method: There are 2 types of objects obtained by steaming, for a total of 26 types. (Shown in Figure 5.)



Figure 5: Preservation and preservation of seasonal natural food in the Na Dun community.: A. Fermentation method.; B. Drying methods; C. Steaming method

DISCUSSION

1) The study results wisdom of the source of natural ingredients according to the seasons of the Na Dun community.

The study results wisdom of the source of natural ingredients according to the seasons of the Na Dun community, Na Dun district, Maha Sarakham province, it was found that there are 2 sources of raw materials: from forest resources, totaling 21 types, from rice fields, totaling 37 types, totaling 58 types. Which finding natural food ingredients and is a way of life, wisdom in finding food for people in the Na Dun community, there are many forest resources and natural resources in the rice fields. There is a natural diversity to serve as a food source for the Na Dun community, where raw materials can be used to prepare food using the traditional wisdom of the Na Dun community in using natural ingredients to prepare food for consumption by the Na Dun community. Therefore, they know how to find various things that can be eaten locally, in line with the simple way of life of the Na Dun community. Every meal of the Na Dun community must have vegetables as the main ingredient, most meats are fish or beef or buffalo meat, and insects that can be found in the area are ingredients used in cooking in every meal. It follows the concept of Somchai Photrakul (2015). Forest resources are natural resources that are extremely important to living things, whether humans or other animals, because forests are useful as a source of raw materials for four necessities: food, clothing housing and medicine for humans and Wirat Khamsrijan (2013). Fields are a source of complete natural abundance. Because the fields were full of plants and animals reflects abundance Including a good

environment and humans still have food sources for consumption. Whether it is shrimp, shellfish, crab, fish, frog, khiad, spinach, morning glory, etc. Which is consistent with research of Wansa Saenlam and Nattha Monthon. (2017). It was found that local food contains ingredients from vegetables and herbs. that have medicinal properties include galangal, lemongrass, chili, garlic and onion, and green, red, orange and yellow vegetables that have health-promoting properties such as reducing blood fat. Lower blood pressure Reduce blood sugar Antioxidants and has basic nutritional value. The source of raw materials comes from nature, garden plants and community markets. that are related to the seasons. And Kesanee Sattaratnakhajorn et al. (2020) found that the local food of the communities in the 5 districts of Lampang province has ingredients for cooking that can be found in the local area and natural sources. Vegetables are used as ingredients in cooking. The vegetables are taken from the vegetables next to the house and seasonal vegetables from the forest such as *Astreus hygrometricus* (Pers) Morg. LYCOPERDACEAE, *Sauropus androgynus* (L.) Merr. and bamboo shoots. And Chantanaporn Wongsai, Prasong Tanpichai, Santi Srisuwantaeng, and Weerachai Supanyo. (2014: 156-172) found that the diversity of natural resources Towards food security of the Phia Lat community, Sang Thong District, Vientiane Capital, Lao People's Democratic Republic (Lao PDR). In the Phia Lat community, there are diverse and abundant natural resources. It is adjacent to the Phu Phanang National Forest Reserve that has biodiversity in both plants and animals for food and products for villagers in the community. And Anna Maria Stalmirska (2024: 160-177) found that understanding and creating diverse discourses about what constitutes "Local food" among procurement representatives Broadly presented in three dimensions: geography, culture and socio-economics the practical implications for manufacturers, service providers and management are presented and propose future research directions. And Charis M.Galanakis (2024: 1-18) found that the global food system faces significant challenges driven by population growth. climate change and changing consumer needs Improving food production efficiency adopt sustainable practices and it is important to develop technological advancements while ensuring safety and public acceptance of adaptive innovations. And a shared commitment to building the resilience of the global food system. Achieving sustainable food production goals nutritious and being environmentally friendly in the future requires comprehensive changes in various aspects of the food supply chain including creative farming methods developed food processing technology and Industry 4.0 applications and approaches that are redefining the way we consume food.

2) The study results wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham province.

The study results wisdom of natural food on the season of Na Dun community, Na Dun district, Maha Sarakham province, it was found that there are 24 plant-based menus in total, 28 insect-based menus in total, 53 animal-based menus in total, and 18 fungus-based menus in total, for a total of 123 menus. Because the natural seasonal food wisdom of the Nadun community is the application of the knowledge and experiences of the people in the community in food to prepare food for daily consumption. There is also a cultural tradition of eating that has been passed down from the past to the present. Natural food that is available locally or in season is believed to be good for health, free of chemical contamination, and very useful in life. The reason for eating natural food that is available locally and in season. It follows the concept of Samneang Sornnakphong (2018: 50) said that local intellectuals are the foundation of the knowledge of the villagers who have learned and accumulated continuous experience, either directly, that is, through their own experiences or indirectly, which is learned from elders, which is a body of knowledge that has accumulated over time. Local wisdom has allowed society to survive for a long time. By inventing, modifying and combining with new knowledge and develop appropriately to develop a quality of life that is unique in its own right. And Prapaisri Sirichakrawan (2003: 220) said that local food of Thai people has a unique identity that varies according to culture. Customs and traditions of people in each locality. The characteristics of local food can indicate the nutritional status of the people in that locality because the local food that

the villagers like and eat on a daily basis in the local area is plentiful. There are many types of local food and it is food that has nutritional value. High food causes people to consume food. The majority of consumers will have good nutritional status. And Pennapha Traphcharoen (1997: 260) said that local food not only has a delicious and mellow taste, but also has a unique identity that indicates the culture and wisdom of the people in each locality who have prepared it into healthy food. It is a nutritionally balanced food that is perfectly combined. Which is consistent with research of Issararat Makhphan et al. (2015: 133-139). It was found that there is a diversity of plants and animals used in local cooking in Na O Subdistrict, Mueang District, Loei Province, Thailand. There are plants and animals used in local cooking. Na O Subdistrict, Mueang District, Loei Province, has a total of 40 families, 75 species of plants and animals. Total 15 families, 18 species. And Sukanlaya Maikrueakaew et al. (2017: 274-296). It was found that the origin of local food wisdom comes from consumption according to the traditional way of life in the community. Inherited from ancestors, it is hundreds of years old or more. Passed on from generation to generation of the household by relying mainly on resources available in the local area. And Rungruang Sarawichit et al. (2016: 88-98) found that there were 185 types of food plant diversity, most of which were 5 types of perennial plants. The problem of food plant diversity was decreasing and becoming harder to find. and local wisdom to conserve the diversity of food crops using agroforestry mixed planting and planting along the top of the field at the end of the field. Iwan Setiajie Anugrah & Hari Harjanto Setiawan (2024: 561-582) found that Climate change in Indonesia has led to increased droughts, floods and pests, damaging crops. Rice plantings that could not be harvested due to climate change from 2014 to 2019 totaled 1.5 million hectares. This has resulted in the loss of 6 million tons of dry milled paddy, equivalent to 750,000 tons of milled rice. The government's efforts to protect farmers from the crisis are based on local wisdom, such as providing insurance to farmers, such as the rice granary principle. What is new in this chapter is the development of insurance programs for farmers based on local wisdom.

3.) The study results natural cooking wisdom and cooking methods from the seasons at Na Dun community.

The study of cooking wisdom and methods of making food from Dhamma according to the seasons, there are 17 types of Na Dun community, including: Curry food, Steamed food, , ground food, bland food, Roasted food, Soup Isan food, Boiled food, Grilled food, Koi Isan food, Stir-fried food, Fried food, Boiled food, Larb Isan food, Fermented food, pounded food, Yam Isan food, Steamed food. The most common method of cooking is curry food. When cooking, fermented fish sauce is used as an important salty condiment and is used as the main ingredient in almost every menu. Helps enhance the taste of food to make it more delicious. There is also *Ocimum africanum* Lour which is the main ingredient used in many dishes. Because it has the ability to remove the fishy smell of food well. and makes food smell delicious. These are the selection of nutritious foods that are consistent with the community's way of life until they become something that greatly nourishes the lives of the people in the Na Dun community. It follows the concept of Patcharee Tangtrakul and et al. (2018: 20) said that local food is food that is different from general food and is unique to that locality. The unique characteristics of local food include color, aroma, taste, texture, raw materials and cooking methods. Factors that influence the characteristics of food include customs, traditions, culture, and beliefs. These factors are what make the characteristics of food in each locality different or similar. The general characteristic of local traditional food is that it consists of ingredients that are easily found in the local area. And Rung Kaewdaeng (1998: 204) said that Thai wisdom is the knowledge abilities and skills of Thai people that arises from the accumulation of experiences through the process of selection, learning, development, and transmission. To solve problems and develop the way of life of Thai people in balance with the environment and appropriate to the era. And Amphai Phrithiworapongkun (2008: 200) said that Thai local food is food that Thai people consume on a daily basis. and consumed on various occasions using seasonings Materials used for cooking from various sources from the natural environment. The process of making it is unique. Including different local

flavors. It is food that consists of raw materials. and local seasonings It is a food that has simple to complex cooking methods. And the cooking method will maintain the natural flavor. There are many processes and techniques for cooking food. And there are many processes and methods for preserving food. There are cooking methods that are consistent with the season and the ecosystem. Which is consistent with research of Thidarat Keemkratok and Sutta Kotiram (2018) found that there are 33 types of local savory food, including curry, boiled, steamed, fried, dipping sauces, and desserts that are unique to the local area. And Supanee Prukha et al. (2020) found that there are 80 types of local food that are commonly consumed, including 27 types of curry, 18 types of ground jaew, 9 types of mok hua, 5 types of larb koi, yam, 4 types of steamed and poached foods, 3 types of stir-fried and fried foods. 3 types of soups, 3 types of grilled foods, 3 types of side dishes, and 5 types of desserts. And Amphai Sorajchaphan (1993) found that rice is the main food of Thai people. There are 2 main types: rice and sticky rice. Thai side dishes are divided into 4 categories: 1) boiled or curry, 2) stir-fried, spicy salad, 3) side dishes, 4) dips.

4) The study results wisdom of storing and preserving natural food according to the season of the Na Dun community.

The study Wisdom of Natural Food on the season of Na Dun Community, Maha Sarakham of Thailand It was found that preservation and preservation of seasonal natural food in the Na Dun community. It was found that there are 3 methods of preservation and preservation of food as follows: Fermentation method. There are 11 types of materials obtained from fermentation drying methods. There are 13 types of objects obtained by drying. Steaming method: There are 2 types of objects obtained by steaming, for a total of 26 types. Because the Nadun community has the wisdom of preserving and preserving natural food according to the season the Nadun community. There are a variety of food sources and has natural abundance according to the seasons Occurring from nature according to the seasons are important to the livelihood of the Nadun community. This has resulted in important knowledge of food storage and preservation to help alleviate food shortages and abnormal drought conditions occurred Helps to have food to consume out of season. And it helps prevent food from spoiling. It also helps extend the shelf life of food for a long time. That can be used to cook a variety of foods. It follows the concept of Narin Charoenphun and Ratchanee Phutta (2020) said that fermentation is the use of certain microorganisms that are not harmful to humans. The microorganisms create certain substances in food. which can inhibit the growth of other microorganisms. The result of fermentation will make food safe from other types of microorganisms and also create new types of food that looks different from the original. It increases the smell and the taste of food is different. And Siri Duangporn (2016) said that preserving food by drying it must reduce inhibit and prevent all chemical reactions and the growth of all types of microorganisms to get dried food that can be stored for a long time. It does not rot due to the growth of microorganisms or has no chemical residue due to chemical reactions during the processing prepare production for storage. Which is consistent with research of Chanjira Chattawanich (2008: 90) found that types of preserved and processed food include food preserved by drying, smoking, using salt and food preserved using sugar. It was found that most of them were preserved food using salt, food preserved using sugar, food preserved by drying preserved food obtained from smoking. And Phra Maha Suriyan Uttaro et al. (2016) found that food preservation according to the local wisdom of the community Classified as food preservation of fermented fish products obtained from fermenting fresh fish that has gone through the preparation process with various ingredients such as steamed glutinous rice. Mainly garlic and salt. The processing process is a method that has been passed on from generations of grandparents using local wisdom that has been passed down from generation to generation. There are no complicated steps and methods for doing it. And Junthane Teavechaorenchai (2017) found that the potential of local vegetables based on local wisdom that can be processed into community food products there are 11 types of local vegetables that have appropriate potential, including: Tiliacora triandra, Morus alba, Hibiscus sabdariffa, Acacia

concinna, Azadirachta indica, Limnophila aromatica, Senegalia pennata, Pandanus, Cratoxylum formosum, Annona squamosa and Asystasia gangetica.

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REFERENCES

- Amphai Phrithiworapongkun. (2008). *Buddhism influence and customary adaptation*. Nakhon Ratchasima: Suranaree University of Technology.
- Amphai Sorajchaphan. (1993). *Local food in the southern region*. Songkhla: Department of Home Economics, Faculty of Science and Technology, Songkhla Rajabhat Institute.
- Anna Maria Stalmirska. (2024). Local Food in Tourism Destination Development: The Supply-Side Perspectives. *Tourism planning & development*, 21(2). 166-170. <https://doi.org/10.1080/21568316.2021.1928739>.
- Chanjira Chattawanich. (2008). *Potential of Thai wisdom in local food in the Eastern Southern region*. Kasetsart University. Bangkok. DOI : https://doi.nrct.go.th/ListDoi/listDetail?Resolve_Doi=10.14457/KU.the.2008.801
- Chantanaporn Wongsai, Prasong Tanpichai, Santi Srisuwantaeng, and Weerachat Supanyo. (2014). Diversity of natural resources towards food security of Phialad community, Sangthong district, Vientiane capital, Lao People's Democratic Republic. *Viridian E- Journal : Humanities, Social Sciences and Arts*, 7(2): 156-172.
- Charis M.Galanakis (2024). The Future of food. *Journals awarded Impact Factor*, 13(4). 1-18. <https://doi.org/10.3390/foods13040506>
- Issararat Makhanphan et al. (2015). Biodiversity of plants and animals used for local food cooking in Na-o subdistrict, Muang district, Loei province. *Journal of Research and Development Buriram Rajabhat University. (Special edition)*. 133 - 139.
- Iwan Setiajie Anugrah & Hari Harjanto Setiawan. (2024). Local Wisdom-Based Food Security in Facing the Climate Crisis in Indonesia. In: Mukhopadhyay, U., Bhattacharya, S., Chouhan, P., Paul, S., Chowdhury, I.R., Chatterjee, U. (eds) *Climate Crisis, Social Responses and Sustainability. Climate Change Management. Springer, Cham.* 5661-582. https://doi.org/10.1007/978-3-031-58261-5_24
- Junthanee Teavechaorenchai. (2017). Development of Food Preservation and Processing for Thailand 4.0. *Romphruek Journal of the Humanities and Social Sciences*, 35(1). January - April. 55-70.
- Kesane Sattaratnakhajorn et al. (2020.) Development of local food contributed to the promotion of tourism, cultural creation of Lampang. *Journal of Civilization Studies Mekong-Salawin*. (153-154).
- Narin Charoenphun and Ratchanee Phutta. (2020). Suitable Formulations for Production of Pickled Jerusalem Artichokes and Kimchi from Jerusalem Artichokes. *Thai Science and Technology Journal (TSTJ)*. 28(7): July, 1202-1215.
- Patchari Tangtrakul and et al. (2018). Folk food or local food, *Varasai Education M.T.* 1(1) : 192-212.

- Pennapha Traphcharoen. (1997). *Thai Culture and Dance Conservation*. Nakhon Si Thammarat University. Nakhon Ratchasima Rajabhat University.
- Phra Maha Suriyan Uttaro et al. (2016). Development of the techniques and process of food preservation according to local wisdom of Ban Nonkalong community enterprises, Phibu Lom San District, Ubon Ratchathani Province. *Journal of Mahon Chul Ubon Pattana*. 6(1): January - March, 382-396.
- Prapaisri Sirichakrawan. (2003). *Folk food of Thai people unique*. First printed. Committee of the National Vichai Council of Sociology, Bangkok
- Rung Kaewdaeng. (1998). *Introducing thai wisdom into the education system*. Bangkok: Office of the National Education Commission.
- Rungruang Sarawichit et al. (2016). The Transfer of local knowledge in conserving the diversity of food plants through environmental education processes. *Eastern Asia University Journal of Science and Technology*. 10(1): January-April, 88-98.
- Samneang Soranakphong. (2018). *Local wisdom*. Chiang Mai: Mae Fah Luang University.
- Siri Duangporn. (2016). Drying Kinetics of Pork by Using Solar Dryer. *Journal of Northeast*. 9(3): September-December, 165-176.
- Somchai Photrakul. (2015). Forest Resource Conservation Management in Thailand. *EAU HERITGE Journal*. 2(2): July - December, 10-25.
- Somsak Sukwong. (2007). Exploring the forest with thumb. *Journal of Forest Management*. 1(1): 139-143.
- Songkhram Wongyai. (2003). *Wisdom Meaning*. Maesuai Witthayakhom School, Mae Suai District, Chiang Rai.
- Sukanlaya Maikrueakaew et al. (2017). Local Food Culture and Its Connection with Area of Suratthani Province. *Area Based Development Research Journal*. 9(4). 274-296
- Supanee Pruksa et al. (2020). Biodiversity of Local Foods and Their Nutrient Values in Na O Cultural Village, Na O District, Loei Province. *Journal of Community Development and Life Quality*. 8(2): May – August, 363-376.
- Thai Junior Encyclopedia for Youth by His Majesty King Bhumibol Adulyadej. (2008). *Meaning Thai Wisdom*. [Online]. From: <http://www.school.net.th/library/snetenvi5/panya/panyan.htm>. [Search on November 9, 2021].
- Thidarat Keemkratok and Sutta Kotiram. (2018). Local food restoration to strengthen the Ban Sanuan Nok community, Sanuan sub-district, Huai Rat district, Buriram province. *Journal of Local Administration and Innovation*, 2(3), 55-68.
- Wahjara Wannaampai. (2009). *Local food wisdom Pakan community*. Kamphaengphet Education University, Kamphaengphet University
- Wansa Saenlam and Nattha Monthon. (2017). Local food for good health in the community, Talad sub-district, Nakhon Ratchasima province. *Research for spatial development*, 9(6): November – December, 445-457.
- Wirat Khamsrijan. (2013). *Na : A source of diversity and natural integrity*. [Online]. From: <http://www.gotoknow.org/posts/385666>. [Search on November 9, 2021].